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RESEARCH ARTICLE

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Notulae to the Italian native vascular flora: 6

Fabrizio Bartolucci[1], Gianniantonio Domina[2], Nicola M.G. Ardenghi[3], Gianluigi Bacchetta[4], Liliana Bernardo[5], Giovanni Buccomino[6], Sergio Buono[7], Franco Caldararo[8], Giacomo Calvia[4], Francesca Carruggio[9], Alessandro Cavagna[10], Francesco S. D'Amico[11], Francesco Di Carlo[12], Francesco Festi[13], Luigi Forte[9,11], Gabriele Galasso[14], Domenico Gargano[5], Günter Gottschlich[15], Lorenzo Lazzaro[16], Sara Magrini[17], Giovanni Maiorca[18], Pietro Medagli[19], Giacomo Mei[20], Flavio Mennini[21], Giuliano Mereu[22], Danio Miserocchi[23], Nicola Olivieri[24], Nicodemo G. Passalacqua[25], Gaetano Pazienza[9], Lorenzo Peruzzi[26], Filippo Prosser[13], Massimiliano Rempicci[7], Francesco Roma-Marzio[27], Alessandro Ruggero[28], Alessandra Sani[29], Domenico Saulle[9], Chiara Steffanini[30], Adriano Stinca[31], Massimo Terzi[32], Giancarlo Tondi[33], Maurizio Trenchi[34], Daniele Viciani[16], Robert P. Wagensommer[35], Chiara Nepi[36]

1 *Centro Ricerche Floristiche dell'Appennino (Università di Camerino – Parco Nazionale del Gran Sasso e Monti della Laga), San Colombo, 67021 Barisciano (L'Aquila), Italy* **2** *Dipartimento di Scienze Agrarie, Alimentari e Forestali, Università di Palermo, Viale delle Scienze, ed. 4, 90128 Palermo, Italy* **3** *Dipartimento di Scienze della Terra e dell'Ambiente, Università di Pavia, Via Sant'Epifanio 14, 27100 Pavia, Italy* **4** *Centro Conservazione Biodiversità, Dipartimento di Scienze della Vita e dell'Ambiente, Università degli Studi di Cagliari, viale Sant'Ignazio da Laconi 13, 09123 Cagliari, Italy* **5** *Dipartimento di Biologia, Ecologia e Scienze della Terra (DIBEST), Università della Calabria, 87036 Arcavacata di Rende (Cosenza), Italy* **6** *Via Sagunto 20, 00174 Roma, Italy* **7** *GIROS Sezione "Etruria Meridionale", Via XXV Aprile 6, 01010 Oriolo Romano (Viterbo), Italy* **8** *Via Mario Pagano 6/4, 85034 Fardella (Potenza), Italy* **9** *Museo Orto Botanico – Campus Universitario "E. Quagliariello", Università degli Studi di Bari "Aldo Moro", Via Orabona 4, 70125 Bari, Italy* **10** *Corso Rosmini 63, 38068 Rovereto (Trento), Italy* **11** *Dipartimento di Biologia, Università degli Studi di Bari"Aldo Moro", Via Orabona 4, 70125 Bari, Italy* **12** *Museo Civico di Storia Naturale di Verona, lungadige Porta Vittoria 9, 37129 Verona, Italy* **13** *Fondazione Museo Civico di Rovereto, Borgo S. Caterina 41, 38068 Rovereto (Trento), Italy* **14** *Sezione di Botanica, Museo di Storia Naturale di Milano, Corso Venezia 55, 20121 Milano, Italy* **15** *Hermann-Kurz Strasse 35, D-72074 Tübingen, Germany* **16** *Dipartimento di Biologia, Università di Firenze, Via G. La Pira 4, 50121 Firenze, Italy* **17** *Banca del Germoplasma della Tuscia, Università della Tuscia, largo dell'Università, blocco C, 01100 Viterbo, Italy* **18** *Agenzia Regionale per lo Sviluppo dell'Agricoltura Calabrese (ARSAC), Viale Trieste, 95 87100 Cosenza, Italy* **19** *Dipartimento di Scienze e Tecnologie Biologiche ed Ambientali, Università del Salento, Via Prov.le Lecce-Monteroni 165, 73100 Lecce* **20** *Dipartimento di scienze Agrarie, Alimentari ed Ambientali (D3A), Università Politecnica delle Marche, Via Brecce Bianche 10, 60131 Ancona, Italy* **21** *Via Domenico Ricci, 4 – 37042 Caldiero (Verona), Italy* **22** *Via Alghero 17, 08042 Bari Sardo (Nuoro), Italy* **23** *Via della Bastiola 6, 48125 Bastia (Ravenna), Italy*

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24 *Via Maestri del Lavoro 40, 64100 Teramo, Italy* **25** *Museo di Storia Naturale della Calabria ed Orto Botanico, Università della Calabria, via Savinio 87036 Arcavacata di Rende (Cosenza), Italy* **26** *Dipartimento di Biologia, Università di Pisa, Via Derna 1, 56126 Pisa, Italy* **27** *Sistema Museale di Ateneo dell'Università di Pisa, Orto e Museo Botanico, Via Luca Ghini 13, 56126, Pisa* **28** *Loc. Parapinta, 07029 Tempio Pausania (Sassari), Italy* **29** *Via della Zecca 39, 55100 Lucca, Italy* **30** *Via Fosse Ardeatine 1, 41016, Novi di Modena (Modena), Italy* **31** *Dipartimento di Scienze e Tecnologie Ambientali, Biologiche e Farmaceutiche, Università della Campania Luigi Vanvitelli, Via Vivaldi 43, 81100 Caserta, Italy* **32** *Istituto di Bioscienze e Biorisorse – CNR, Via Amendola 165/A, 70126 Bari, Italy* **33** *Via F. D'Ovidio 89, 00137 Roma, Italy* **34** *Via Villa Cozza 24, 37131 Verona, Italy* **35** *Dipartimento di Chimica, Biologia e Biotecnologie, Università di Perugia, Via del Giochetto 6, 06123 Perugia* **36** *Sezione di Botanica Filippo Parlatore, Museo di Storia Naturale, Università di Firenze, Via G. La Pira 4, 50121 Firenze, Italy*

Corresponding author: *Fabrizio Bartolucci* (fabrizio.bartolucci@gmail.com)

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Abstract

In this contribution, new data concerning the distribution of native vascular flora in Italy are presented. It includes new records, confirmations and status changes to the Italian administrative regions for taxa in the genera *Alchemilla*, *Arundo*, *Bupleurum*, *Clematis*, *Clinopodium*, *Cota*, *Crassula*, *Cytisus*, *Euphorbia*, *Hieracium*, *Isoëtes*, *Lamium*, *Leontodon*, *Linaria*, *Lychnis*, *Middendorfia*, *Ophrys*, *Philadelphus*, *Pinus*, *Sagina*, *Sedum*, *Taeniatherum*, *Tofieldia*, *Triticum*, *Veronica*, and *Vicia*. Nomenclature and distribution updates, published elsewhere, and corrigenda are provided as supplementary material.

Keywords

Floristic data, Italy, nomenclature

How to contribute

The text for the new records should be submitted electronically to Chiara Nepi (chiara.nepi@unifi.it). The corresponding specimens along with its scan or photograph have to be sent to FI Herbarium: Sezione di Botanica "Filippo Parlatore" del Museo di Storia Naturale, Via G. La Pira 4, 50121 Firenze (Italy). Those texts concerning nomenclatural novelties (typifications only for accepted names), status changes, exclusions, and confirmations should be submitted electronically to: Fabrizio Bartolucci (fabrizio.bartolucci@gmail.com). Each text should be within 2,000 characters (spaces included).

Floristic records

Alchemilla filicaulis Buser (Rosaceae)

+ **TOS:** Abetone (Pistoia), Loc. Lago Nero, prateria secondaria su versanti arenacei esposti prevalentemente ad Est (WGS84: 44.065763°N; 10.380465°E), 1774 m, 11 August 2016, Leg. *G. Buccomino*, Det. *G. Tondi*, *F. Festi* (FI). – Species confirmed for the flora of Toscana.

This species was generically quoted for Toscana by Kurtto et al. (2007) and not reported in Bartolucci et al. (2018). The collected plants show very dense hairiness on all parts and belong to *A. filicaulis* var. *vestita* Buser (Festi 2000, Festi et al. 2015). This taxon has been collected at the side of the path also in Val di Luce at 1600 m s.l.m. (WGS84: 44.065763°N; 10.380465°E, Herb. Buccomino).

G. Buccomino, G. Tondi, F. Festi

Alchemilla tenuis Buser (Rosaceae)

+ **EMR:** Parco regionale del Frignano, Pievelago (Modena), Loc. Lago Turchino, area umida ad Est del lago (WGS84: 44.071251°N; 10.355938°E), 1612 m, 13 August 2016, Leg. *G. Buccomino*, Det. *G. Tondi*, *F. Festi* (FI). – Species confirmed for the flora of Emilia-Romagna.

This species was reported for Emilia-Romagna by Festi (2000), but results as "no longer recorded" in Bartolucci et al. (2018). Other samples were collected on 9 August 2011 (WGS84: 44.173226°N; 10.232708°E) between the Passo della Cisa and Monte Cusna (Herb. Buccomino).

G. Buccomino, G. Tondi, F. Festi

Arundo plinii Turra (Poaceae)

+ (CAS) **TAA:** Besenello (Trento), strada per Folgaria 400 m prima (a NW) di Dietrobeseno, lato a valle della strada (WGS84: 45,9299°N; 11,1140°E), scarpata erbosa, 320 m, 18 March 2018, *F. Prosser* (ROV No. 73984, FI). – Casual alien species new for the flora of Trentino-Alto Adige.

This steno-Mediterranean species, typical of clayey slopes and road margins (Pignatti 2017), is reported as native in all regions of Italy from Liguria southwards (Bartolucci et al. 2018). The population found near Dietrobeseno was very probably introduced, perhaps by greening. Currently, the plants form a compact patch of approximately 5 × 10 m. The plants regularly flower but they do not seem to produce viable seeds, and the propagation via stolons is hindered by the surrounding vegetation, so that the presence of this species is evaluated as casual.

F. Prosser

Bupleurum fruticosum L. (Apiaceae)

+ (C) **TOS:** Candeli (Bagno a Ripoli, Firenze), C.da Ulivelli, 500 m a est di Villa La Tana (WGS84: 43.764080°N; 11.348720°E), margine di macchia, 205 m s.l.m., 15 July 2018, *F. Roma-Marzio*, *P. Liguori* (FI, PI No. 011168, Herb. Roma-Marzio). – Cryptogenic species confirmed for the flora of Toscana.

Bupleurum fruticosum L. is a steno-Mediterranean species, occurring as native from Morocco to Greece, and introduced in Great Britain, Germany, Ukraine, and Crimea (Hand 2011). In Italy, this species is native in Sicily, Sardinia, and Liguria, and not confirmed in Puglia (Bartolucci et al. 2018). In the latter region, however, it is considered as doubtfully native by Pignatti (2018). Although *B. fruticosum* is not reported in the recent checklist of woody flora of Toscana (Roma-Marzio et al. 2016), this species was actually mentioned as cultivated by Baroni (1897–1908), and Montelucci (1933) indicated this species for the park of Sammezzano and near Rignano sull'Arno around Florence. Negri (1946) confirmed the presence of cultivated plants at Sammezzano, but the same author also reported a new locality for *B. fruticosum* in Candeli, south-eastern of Florence, Bagno a Ripoli, in the ex hunting lodge of Villa La Tana. Negri (1946) admitted that that presence of *B. fruticosum* could be the result of a naturalization from plants cultivated in the past, but he also hypothesized that this species could be native in Candeli (see also Corti 1959). We confirmed the occurrence of *B. fruticosum* in Candeli: we observed mature plants, several young individuals and some seedling. Although the plants are well integrated in the local maquis shrubland vegetation, considering the historical indications of cultivated plants and that all the known localities are more or less close to old mansions and parks, we opt to consider *B. fruticosum* in Tuscany as a cryptogenic species.

F. Roma-Marzio, L. Peruzzi

EX (C) **PUG:** – Cryptogenic species extinct in Puglia.

Bupleurum fruticosum was reported in Puglia only for Salento (Capo di Leuca), more than 130 years ago (Groves 1887). Two years later, Caruel (1889) indicated this species as cultivated in peninsular Italy, and considered *B. fruticosum* as probably alien at Capo di Leuca. More recently, Mele et al. (2006) considered this species as possibly extinct in Salento, but Bartolucci et al. (2018) indicated it as a native, not confirmed species. No specimen is preserved in FI, and field research carried out by one of us (PM) in the last years allows to exclude the current occurrence of *B. fruticosum* in the Salento area. Furthermore, we consider it as cryptogenic in Puglia, in accordance with Caruel (1889) and Pignatti (2018).

F. Roma-Marzio, P. Medagli, R.P. Wagensommer

Clematis rigoi W.T.Wang (Ranunculaceae)

+ **PUG:** Castellaneta (Taranto), a ovest di Masseria Signora Nunzia (WGS 40.541400°N; 16.906533°E), 12 m s.l.m., bosco igrofilo a Frassino meridionale, 21 May 2018, *F.*

Carruggio, *G. Pazienza*, *D. Saulle*, *L. Forte* (BI Nos. 41955-41956-41957). – Species confirmed for the flora of Puglia.

Clematis rigoi is quite similar to the western Mediterranean species *C. campaniflora* Brot. (Fernández Carvajal 1986, Wang 2000), with which it was confused in the past (Cavara 1907). It is endemic to southern Italy, and it was certainly known so far only for Basilicata and Calabria, while it was no longer recorded in Puglia (Bartolucci et al. 2018). Some authors reported Lesina in the Gargano Promontory as the only one regional site of occurrence for this species (Cavara 1907 under the name *C. campaniflora* Brot., Fiori 1924 under the name *C. viticella* L. var. *scandens* (Huter, Porta & Rigo) Arcang.). This new locality lies in a narrow-leafed ash hygrophilous wood, in the Lato river basin.

F. Carruggio, G. Pazienza, D. Saulle, L. Forte

Clinopodium acinos (L.) Kuntze subsp. *acinos* (Lamiaceae)

+ **BAS:** Parco naturale Gallipoli Cognato Piccole Dolomiti Lucane, Pietrapertosa (Potenza), Monte dell'Impiso (WGS84: 40.285088°N; 16.055150°E), versante boscato a lato del sentiero, 1288 m, 21 June 2013, *G. Buccomino* (FI); Parco nazionale del Pollino, Viggianello (Potenza), Piano Ruggio (WGS84: 39.918879°N; 16.137209°E), pascolo arido su suolo calcareo, 1560 m, 21 June 2014, *F. Caldararo* (FI). – Subspecies new for the flora of Basilicata.

The first notice of this report appeared in the web-forum Acta Plantarum (http://www.floraitaliae.actaplantarum.org/viewtopic.php?t=74633).

G. Buccomino, F. Caldararo

Cota tinctoria (L.) J.Gay subsp. *australis* (R.Fern.) Oberpr. & Greuter (Asteraceae)

+ (NAT) **SAR.** – Status change from casual to naturalized alien for the flora of Sardegna.

This taxon has a European-Pontic distribution (Pignatti 2018), and it is native to the mainland Italy (Bartolucci et al. 2018). Atzei (1996) reported *C. tinctoria* subsp. *australis* for the first time in Sardegna from Mt. Limbara. This species plant is now diffuse in several localities of that mountain, from 1000 to 1350 m, normally growing on roadsides and disturbed places, but also in clearings of reforestations, along paths, and in garrigues.

G. Calvia, A. Ruggero

Crassula tillaea Lest.-Garl. (Crassulaceae)

+ **LOM:** Pavia (Pavia), Via Sant'Epifanio, davanti all'entrata dell'Orto Botanico, interstizi sabbiosi dell'acciottolato; vegetazione: *Ochlopoa annua*, *Polycarpon tetraphyllum*, *Herniaria hirsuta* (*Saginion procumbentis*), 74 m, 11 May 2010, *N. Ardenghi* (Herb.

N. Ardenghi); *ibidem* (WGS84: 45.18531°N; 9.16285°E), acciottolato, 74 m, 29 May 2018, *N. Ardenghi* (FI). – Species confirmed for the flora of Lombardia.

Bartolucci et al. (2018) indicated this species as "extinct" in Lombardia, but it is present in front of the entrance of the Pavia Botanical Garden since at least 2010. About 100 individuals were counted in 2018. The only record for the province of Pavia (consisting of two localities fromthe municipalities of Linarolo and Miradolo Terme) dates back to Nocca and Balbis (1816) and has been repeated by subsequent local and national floras until Pignatti (1982).

N.M.G. Ardenghi

Cytisus scoparius (L.) Link subsp. *scoparius* (Fabaceae)

+ (INV) **SAR.** – Status change from naturalized to invasive alien for the flora of Sardegna.

This is an European species, which is native to Italy but reported as naturalized in Sardegna (Arrigoni 2010, Podda et al. 2012, Camarda et al. 2016, Puddu et al. 2016, Bartolucci et al. 2018). Actually, it became locally invasive, above all on Mt. Limbara, where it was introduced in the 1960's (Veri and Bruno 1974). It is gradually expanding in clearings, roadsides, garrigues and meadows above 950 m, but it is also starting to colonize wilder and isolated areas below, un po 500 m.

G. Bacchetta, G. Calvia, A. Ruggero

Euphorbia cuneifolia Guss. (Euphorbiaceae)

+ **CAL:** Montalto Uffugo (Cosenza), contrada Mavigliano (WGS84: 39.39378°N; 16.22858°E), pratelli terofitici su suolo argilloso umido, 170 m, 18 April 2018, *L. Bernardo, G. Maiorca* (FI, CLU No. 26197). – Species confirmed for the flora of Calabria.

Euphorbia cuneifolia was described by Gussone (1826) on samples coming from Calabria, near Brancaleone, Roseto, and Capo Bruzzano. Later authors confirmed its occurrence for the same localities (Tenore 1831, Parlatore 1867, Fiori 1926) or generically for Calabria (Pignatti 1982, 2018). However, there have been no further reports for this region. At present, this species is known for central and southern Italian regions, excluding Marche, Abruzzo, and Basilicata, doubtfully occurring in Umbria (Bartolucci et al. 2018).

L. Bernardo, G. Maiorca

Euphorbia illirica Lam. (Euphorbiaceae)

+ **VEN:** Negrar (Verona), Monte Tondo in località Case Antolini (WGS84: 45.537681°N; 10.974972°E), 650 m, 24 July 2018, *F. Menini* (VER). – Species confirmed for the flora of Veneto.

According to Bartolucci et al. (2018), this species has been indicated in Veneto by mistake. However, the report published by Goiran (1897–1904) for Contrada Antolini was certainly correct, as evidenced by herbarium vouchers conserved in VER (leg. Goiran, June 1889, under the name *E. pilosa* L.). Prosser in Buffa et al. (2017), indicated this species as extinct in the province of Verona. A search near Case Antolini by the first author led instead to a confirmation of the old record. The population consists of several individuals located mainly at the edge of the meadow (*Arrhenatheretum*) and wood in a radius of about 200 m. It grows in a mesophilous habitat, with *Hypericum hirsutum* L., *Trifolium patens* Schreb., and *Veratrum nigrum* L. In the woods, we can note the presence of *Castanea sativa* Mill. Also in areas bordering Veneto *E. illirica* is very rare, being known in Friuli Venezia Giulia only in four localities in the resurgence belt (F. Martini, pers. comm.), and having been collected in central-eastern Lombardy for the last time in 1985 (Martini et al. 2012).

F. Menini, F. Prosser

Hieracium pellitum Fr. subsp. *pellitum* (Asteraceae)

+ **MOL:** San Massimo (Campobasso), tra Campitello Matese e Monte Miletto (WGS84: 41.449873°N; 14.382191°E), pascolo, 1450-1775 m, 4 July 2016, Leg. *A. Stinca, L. Frate, A. Scolastri*, Det. *G. Gottschlich* (FI, PORUN, Herb. Gottschlich No. 66949). – Species new for the flora of Molise.

In Italy, *Hieracium pellitum* subsp. *pellitum* is recorded only for Piemonte, Liguria, Marche, and Abruzzo (Bartolucci et al. 2018). Therefore, our finding represents the new southern limit of the species range in the Italian Peninsula.

A. Stinca, G. Gottschlich

Isoëtes echinospora Durieu (Isoëtaceae)

+ **TAA:** Mezzana (Trento), Laghi del Malghetto di Mezzana, lago Inferiore (WGS84: 46.2794°N; 10.8102°E), sul fondo del laghetto, soprattutto a 2 m di profondità, 2001 m, 24 August 2017, *D. Miserocchi, C. Steffanini* (FI, ROV No. 73577). – Species confirmed for the flora of Trentino-Alto Adige.

The distribution of *I. echinospora* in Italy was previously limited to Piedmont and Lombardy (Troìa and Greuter 2014). This species has also been reported by Huber (1906) for Lago Grande di Monticolo (Bolzano, Südtyrol), but this report not confirmed by recent surveys, is considered doubtful by Beck and Wilhalm (2010). Recently, this species was considered as not confirmed for Trentino-Alto Adige by Bartolucci et al. (2018). After the first findings in the upper and lower lakes of Malghetto di Mezzana (5 August 2017, *Redolfi, Miserocchi, Pegoretti*), we have looked for *I. echinospora* in further lakes of the eastern Adamello Group (Pinzolo, Trento), also finding it on the following sites: Tre Laghi, Lago Medio (WGS84: 46.2607°N; 10.7978°E), 2271 m

and Lago Inferiore (WGS84: 46.2593°N; 10.7976°E), 2257 m, 21 September 2017; Lago delle Malghette (WGS84: 46.2675°N 10.8172°E), 1880 m, 21 September 2017; Lago di Pradalago (WGS84: 46.2491°N; 10.8131°E), 2082 m, 29 September 2017. This species was therefore found in six alpine lakes, approximately in 3.5 km from North to South. In some of these lakes, *I. echinospora* forms submerged prairies. All lakes are located on acid rock (tonalite). We have searched for this species in further 13 lakes in the area, but without success.

D. Miserocchi, A. Cavagna, C. Steffanini, F. Prosser

Lamium bifidum Cirillo subsp. *balcanicum* Velen. (Lamiaceae)

+ **BAS:** Viggianello (Potenza), Piano di Ruggio (WGS84: 39.910604°N; 16.130958°E), prato nitrofilo a bordo nevaio, 1550 m, 30 May 2015, *L. Bernardo, D. Gargano* (FI, CLU No. 26200); *ibidem*, 23 May 2016, *F. Caldararo* (CLU No. 26201). – Subspecies new for the flora of Basilicata.

This report extends southward the distribution of this subspecies, so far reported only for Marche, Lazio, and Abruzzo (Conti et al. 2008, Bartolucci et al. 2018).

L. Bernardo, F. Caldararo, D. Gargano

Leontodon rosanoi (Ten.) DC.

+ **PUG:** Agro di Roseto Valfortore, Foggia (WGS84 41.375674°N; 15.118577°E), pascolo roccioso a *Bromopsis erecta*, 890 m slm, 11 July 2018, *M. Terzi, F.S. D'Amico* (FI). – Species confirmed for the flora of Puglia.

Pittoni (in Pignatti 1982) indicated *Leontodon rosanoi* [under the name *Leontodon villarsii* (Willd.) Loisel.; see Mariotti Lippi and Garbari 2004] for all the regions of the Italian Peninsula. However, in the recent updated checklist of the flora of Italy (Bartolucci et al. 2018), this species is considered as a "no longer recorded" in Puglia.

M. Terzi, F.S. D'Amico

Linaria simplex (Willd.) Desf. (Plantaginaceae)

+ (NAT) **VEN:** Verona, in Lungadige Attiraglio, nei pressi di Ponte Catena (WGS84: 45.44964813°N; 10.98327089°E), sull'argine in pietra, 60 m, 9 April 2018, *M. Trenchi, F. Di Carlo* (FI, ROV, VER); Castel Montorio (Verona), di fronte alla chiesetta sconsacrata (WGS84: 45.45900395°N; 11.05028927°E), prato arido, 125 m, 26 Mai 2018, *M. Trenchi* (VER). – Naturalized alien species confirmed for the flora of Veneto.

Although Pignatti (1982, 2018) quotes this euri-Mediterranean species also for Veneto, Bartolucci et al. (2018) report its doubtful occurrence in this region. Indeed, we do not know any precise data for Veneto, neither from bibliography, nor from

herbaria (FI, PAD). It has never been found by the botanists who have been active in Verona and it is not listed in the most recent local flora (Di Carlo and Bianchini 2014). *Linaria simplex* is indicated by Bartolucci et al. (2018) as native in all Italian regions, with the exception of Emilia-Romagna (doubtful), Lombardy (extinct; Martini et al., 2012), Trentino-Alto Adige (casual), and Friuli-Venezia Giulia (naturalized). In the latter three regions, this species has been mentioned for the first time, as casual, by Angiolini and Scoppola (1999) based on herbarium specimens in PESA. In Verona, *L. simplex* grows widely in a stretch of approximately 150 m of Lungadige, on the stone embankment. It grows together with mostly annual species, including: *Avena barbata* Pott ex Link, *Erigeron canadensis* L., *Euphorbia cyparissias* L., *E. helioscopia* L. subsp. *helioscopia*, *Medicago rigidula* (L.) All., *Myosotis ramosissima* Rochel subsp. *ramosissima*, and *Saxifraga tridactylites* L.

M. Trenchi, F. Di Carlo, F. Prosser

Lychnis coronaria (L.) Desr. (Caryophyllaceae)

+ **TOS:** Bibbiena (Arezzo), Parco Nazionale delle Foreste Casentinesi, lungo la strada sterrata tra Serravalle e Tramignone, nei pressi di un castagneto e di un impianto di noce (WGS84: 43.780926°N; 11.847683°E), ca. 890 m, 4 July 2018, *D. Viciani, L. Lazzaro* (FI). – Species confirmed for the flora of Toscana.

Lychnis coronaria is reported as a species doubtfully occurring in Toscana by Bartolucci et al. (2018). It is a Mediterranean-Turanian species, occurring in almost all the regions of continental Italy, mostly as alien in Northern Italy, and as native in Central-Southern Italy (Bartolucci et al. 2018). In Toscana, this species was doubtfully reported by Caruel (1866), based on a record by G. Santi for Pitigliano (Grosseto), and later on for Bibbiena (Arezzo) by Baroni (1897–1908), a record neglected by Viciani et al. (2010). Actually, this plant was recently documented also by Selvi (2002) and Viciani et al. (2004) close to San Quirico (Grosseto). We confirm its presence also close to Bibbiena (Arezzo), in the area of the "Parco Nazionale delle Foreste Casentinesi, Monte Falterona e Campigna". The population reported here is far enough from residential areas to support its native status in Toscana, and the growing conditions are close to those described by Selvi (2002).

D. Viciani, L. Lazzaro

Middendorfia borysthenica (Schrank) Trautv. (Lythraceae)

+ **TOS:** Porcari (Lucca), Padule, loc. Chiuso delle Canne (WGS84: 43.80000°N; 10.63265°E), fanghi umidi di un chiaro di caccia, 6 m, 15 June 2016, *A. Sani* (FI). – Species confirmed for the flora of Toscana.

This annual, submediterranean species (Pignatti 2017) occurs in Italy in Piemonte, Lazio, Puglia, Sicilia, and Sardegna, but it was doubtfully recorded for Toscana (Bar-

tolucci et al. 2018). For the latter region, only six ancient records from Caruel (1860–1864) and Baroni (1897–1908) were available so far. Two of them refer to Maremma (Lago Secco and Doganella in the Capalbio area, Grosseto), where this species was not found again recently (Selvi 2010). The remaining four records (Altopascio, Asciano, Bientina, and Castagnolo) refer to plain areas in the low Arno valley, i.e. the same area in which we were able to find this species again.

A. Sani, L. Peruzzi

Ophrys sphegodes Mill. subsp. *sphegodes* (Orchidaceae)

+ **LAZ:** Barbarano Romano (Viterbo), loc. Chiesaccia (Parco *Marturanum*), boscaglia su terreno argilloso-sassoso (WGS 84: 42.229557°N; 12.050115°E), 327 m, 7 March 2018, *S. Buono* (FI). – Species confirmed for the flora of Lazio.

Within *Ophrys sphegodes* group, two close taxa are considered vicariant in Italy: *O. sphegodes* subsp. *sphegodes*, occurring only in the northern regions, and the taxonomically doubtful species *O. classica* Devillers-Tersch. & Devillers, recorded for central and southern Italy (Bartolucci et al. 2018). The two taxa differ mainly for the presence of bulges in the lip. In particular, *O. sphegodes* subsp. *sphegodes* shows a lip with no bulges or with very small ones, while *O. classica* is always characterized by prominent, rounded bulges in the lip (GIROS 2016). The population reported here was made up of plants with no bulges in the lip.

S. Magrini, S. Buono, M. Rempicci

Philadelphus coronarius L. (Hydrangeaceae)

+ (CAS) **MAR:** San Benedetto del Tronto (Ascoli Piceno), margine della massicciata ferroviaria alla periferia dell'abitato (WGS84 42.9375°N; 13.889444°E), ca. m 6, 10 July 2018, *N. Olivieri* (FI). – Casual alien species new for the flora of Marche.

A single individual of the species grows at the edge of the railway embankment, on the eastern side, in an area characterized by rather humid pebbly substratum. The site is located on the southern outskirts of the town. This species grows with *Equisetum ramosissimum* Desf., and some young individuals of *Chamaerops humilis* L. *Philadelphus coronarius* is considered native in Lombardia, Veneto, Trentino-Alto Adige, and probably also in Toscana (Bartolucci et al. 2018, Pignatti 2018). In the rest of the Italian territory, this species has been introduced for ornamental purposes and is – in case – locally naturalized. It is cultivated in some gardens near the observation area.

N. Olivieri

Pinus nigra J.F.Arnold subsp. *laricio* Palib. ex Maire (Pinaceae)

+ (INV) **SAR.** – Status change from caual to invasive alien for the flora of Sardegna.

This taxon, endemic to Corsica, Calabria, and Sicilia (Jeanmonod and Gamisans 2013), also occurs in Toscana (Bartolucci et al. 2018). In Sardinia it has been introduced in reforestations starting from 1929/1930 (Pavari 1935), being reported as a casual alien by Bartolucci et al. (2018). On the eastern side of the Gennargentu Massif (Arzana, Villagrande Strisaili), subjected to abundant reforestations, it is now naturalized. In the area of Monte Limbara as well, it is spreading rapidly, invading almost all degraded areas over 900 m, up to 1.5 km far from plantation sites. Abundant trees, saplings and seedlings occupy vast areas, especially invading heaths and garrigues with endemic dwarf brooms, as well as rocky places, paths, and roadsides. The density of saplings and seedlings is higher close to reforestation sites. Locally, the trees compete with the native *Pinus pinaster* Ait.

G. Bacchetta, G. Calvia, A. Ruggero

Sagina micropetala Rauschert (Caryophyllaceae)

+ **CAL:** Montalto Uffugo (Cosenza), contrada Mavigliano (WGS84: 39.39378°N; 16.22858°E), pratelli terofitici su suolo argilloso umido, 170 m, 18 April 2018, *L. Bernardo, G. Maiorca* (FI, CLU No. 26196). – Species new for the flora of Calabria.

In southern Italy, this species is recorded only for Campania and Puglia (Bartolucci et al. 2018), probably due to misidentification with *S. apetala*, Ard. which is however distinguished by different morphological and ecological features (Bomble 2015).

L. Bernardo, G. Maiorca

Sedum caespitosum (Cav.) DC. (Crassulaceae)

+ **CAL:** San Lorenzo Bellizzi (Cosenza), strada per Cerchiara di Calabria, sotto Pietra S. Angelo (WGS84: 39.878427°N; 16.337091°E), margine strada, 820 m, 30 April 2005, *L. Bernardo* (FI, CLU No. 19870); Serra Pedace (Cosenza), San Nicola Silano, ca. 250 m NW dalla SP11, a S della ferrovia, lungo la strada per Silvana Mansio (WGS84: 39.312096°N; 16.541050°E), prato arido su sabbie granitiche, 1420 m, 15 May 2013, *L. Bernardo* (CLU No. 25956). – Species new for the flora of Calabria.

Based on this report, *S. caespitosum* occurs in all the southern regions of Italy, but it has not been recently confirmed for Campania (Bartolucci et al. 2018).

L. Bernardo, G. Maiorca

Taeniatherum asperum (Simonk.) Nevski (Poaceae)

+ **CAL:** Cerchiara di Calabria (Cosenza), pendici Nord di Coste Aquafredda (Monte Sellaro), nei pressi di Casa Francomano (WGS84: 39.86135°N; 16.35719°E), prato arido su calcare, 1010 m, 28 June 2018, *L. Bernardo, N.G. Passalacqua* (FI, CLU No 26202). – Species new for the flora of Calabria.

In Italy, *Taeniatherum asperum* was known only for Puglia, Basilicata, Sardegna, and Sicilia (Bartolucci et al. 2018).

L. Bernardo, G. Maiorca, N.G. Passalacqua

Tofieldia calyculata (L.) Wahlenb. (Tofieldiaceae)

+ **MAR:** Mt. Nerone – loc. Fiamba (Pesaro-Urbino) (WGS84: 43.542063°N; 12.577614°E), moist meadow on limestone substrate at the head of the stream of the Fiamba gorge 780 m, 14 May 2016, *G. Mei* (FI). – Species new for the flora of Marche.

The presence of *Tofieldia calyculata* was not yet reported for Marche (Bartolucci et al. 2018). It is interesting to note that this species, along the Apennines, is limited to the main mountainous massifs, exclusively on the Adriatic side.

G. Mei

Triticum biunciale (Vis.) K.Rich. subsp. *biunciale* (Poaceae)

+ **CAL:** Amendolara (Cosenza), tra le contrade Monachicchio e Civegna (WGS84: 3993982°N; 16.55893°E), incolto a margine strada, 275 m, 22 May 2018, *L. Bernardo, D. Gargano* (FI, CLU No. 26195); Cerchiara di Calabria (Cosenza), margini strada SS 92 (WGS84: 39.863379°N; 16.35899°E), incolto, 970 m, 17 June 2017, *L. Bernardo, G. Maiorca* (CLU No. 26199); Villapiana (Cosenza), alveo Fiumara Saraceno (WGS84: 39.84204°N; 16.50835°E), prato arido su pietraia, 5 m, 30 May 2018, *L. Bernardo, D. Gargano* (CLU No. 26203); Crosia (Cosenza), contrada Macchia della Bura, incolto retrodunale, 5 m, 27 April 2018, *L. Bernardo, D. Gargano* (CLU No. 26198). – Species new for the flora of Calabria.

According to Perrino et al. (2014) and Pignatti (2017), *T. biunciale* occurs in Veneto, Toscana, Campania, Basilicata, and Puglia. However, Bartolucci et al. (2018) confirm its occurrence only for Campania and Puglia. It is widespread in the Ionian side of northern Calabria, often mixed with the more common *T. neglectum* (Req. ex Bertol.) Greuter.

L. Bernardo, D. Gargano, G. Maiorca

Veronica acinifolia L. (Plantaginaceae)

+ **SAR:** Gairo (Ogliastra), versante nord-orientale di Perda Liana, bordo di ruscello montano (WGS84: 39.914700°N; 9.418400°E ± 100 m), 950 m, 9 June 2018, *G. Mereu* (FI). – Species confirmed for the flora of Sardegna.

The presence of this species in Sardegna was indicated by Moris (1827), but later no longer confirmed by the same author (Moris 1858–1859).

G. Mereu

Vicia nigricans (M.Bieb.) Coss. & Germ. (Fabaceae)

+ **LIG:** Vobbia (Genova), ai piedi del Castello della Pietra (WGS84: 44.61321°N; 9.01594°E), prateria xerofila su conglomerati, 538 m, S, 18 May 2016, *N. Ardenghi* (FI). – Species confirmed for the flora of Liguria.

This species is indicated as "recorded by mistake" in Liguria by Bartolucci et al. (2018), but it is quite frequent on the rocky cliffs at the base of the castle in Vobbia.

N.M.G. Ardenghi

Nomenclature and distribution updates from other literature sources, and corrigenda

Nomenclature and distribution updates according to Gutermann and Kropf (2009), Marcenò and Gristina (2010), Pezzetta (2011), Al-Shehbaz (2012), Gennai et al. (2012), Martini et al. (2012), Domina and Jaouadi (2013), Marchetti (2015), Mavrodiev et al. (2015), Peruzzi et al. (2015), Ardenghi and Polani (2016), Fraser-Jenkins et al. (2016), Martignoni et al. (2016), Arrigoni (2017, 2018), Benítez-Benítez et al. (2017), Gottschlich (2017), Lasen and Da Pozzo (2017), Minissale et al. (2017), Pignatti (2017), Sáez and Aymerich (2017), Soreng et al. (2017), Astuti and Peruzzi (2018), Bräuchler (2018), Brock et al. 2018, Carta et al. (2018), Dentant et al. (2018), Erben et al. (2018), Esmailbegi et al. (2018), Gargano (2018), Hassemer (2018), Iamonico and Mosyakin (2018), Koopman (2018), Macháčková et al. (2018), Míguez et al. (2018), Mosyakin (2018), Pignatti (2018), Raab-Straube and Raus (2018), Särkinen et al. (2018), Siadati et al. (2018), Španiel et al. (2018), Steffan (2018), Sukhorukov et al. (2018), Troia et al. (2018), Vogt et al. (2018) and corrigenda to Bartolucci et al. (2018) are provided in Supplementary material 1.

F. Bartolucci, G. Galasso

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Supplementary material 1

Supplementary data

Authors: Fabrizio Bartolucci, Gabriele Galasso

Data type: species data

Explanation note: 1. Nomenclature updates; 2. Distribution updates; 3. Synonyms, misapplied or included names.

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